Jerry Zhu

347-481-1012 | jerry.zhu@stonybrook.edu | linkedin | github | personal

Education

Stony Brook University — Stony Brook, NY

Bachelor of Science, Computer Science — *August 2022 - May 2026*

- Coursework: Discrete Mathematics, Linear Algebra, Data Structures and Algorithms, Probability and Statistics
- Extracurriculars: Stony Brook Game Developers, Stony Brook Computing Society

Volunteer Experience

Software Development Team Lead — February 2021 - September 2022

The Environment Project — *Queens, NY*

- Led the development of Recyclopedia, a custom wiki application with 4 team members
- Maintained and redesigned the organization **WordPress** website which reached 10K visitors
- Authored the event page for the Flushing Meadows Corona Park clean-up which resulted in 111 participants
- Managed collaboration through **GitHub**, **Trello**, and bi-weekly pair-programming meetings on **Zoom** and **VS-Code**

Projects

JRPG Game: Legends | *C, SDL2, Emscripten* — June 2022 - Present

- Built a multiplatform software rendered game engine in **C**, running on desktop with SDL2 and web with **Emscripten**
- Developed custom level editor, world map editor, and save formats with backwards compatibility
- Developed a custom parser for a lisp-based scripting language used for game events, cutscenes, and data
- Implemented a **SIMD** optimized **multithreaded** renderer improving framerate by 200%

UHired | *JavaScript, CSS, React.js, Express* — September 2022

- Designed and implemented the frontend for an NLP based chat application in **React.js**, **CSS**, and the **co;here** API
- Collaborated with 3 teammates for the SBUHacks hackathon which lasted 48 hours via GitHub
- Debugged the backend which was written with **Express** and fixing the webscraper to gather job listing data

2D Game Framework | *C, OpenGL, SDL2, Emscripten* — July 2021 - October 2021

- Developed a cross-platform game framework in **C** using **SDL2** and **OpenGL** targeting desktop and web with **Emscripten**
- Improved rendering performance by compressing vertex information into 16 bit integers
- Designed a memory-efficient glyph-cache that allows arbitrary Unicode text to be rendered with low performance overhead
- Implemented useful development features such as a debug console and hot re-loadable assets which include textures and shaders

Recyclopedia | *React.js, TypeScript, Next.js, MongoDB, Redux* — July 2021 - October 2021

- Created a custom wiki web application for The Environment Project which supports article authoring, and viewing in a single page application (S.P.A)
- Designed data-schema, and deployed **MongoDB** database for article data
- Implemented a custom in-house rich text editor, and implemented social features such as comments and voting with **React.js** and **CSS**
- Enabled static site generation through the use of **Next.js** improving website performance by eliminating database requests

Technical Skills

Languages: JavaScript, TypeScript, CSS, HTML, Python, C, C++, C#, Lisp, Java
Web Frameworks: React.js, Node.js, Strapi, Next.js, co;here, Redux
Misc. Technologies: REST APIs, OpenGL, WebGL, MongoDB, Emscripten
Development Methodologies: SOLID, DRY, Design Patterns, Functional Programming
Developer Tools: Git, Mercurial, VS Code, Visual Studio, GDB, Valgrind, Eclipse, Bash, Trello, Linux